

Application No.: 10/591,457

REMARKS

The indication of allowable subject matter in claims 2-7 is acknowledged and appreciated. In view of the following remarks, it is respectfully submitted that all pending claims are patentable over the cited prior art.

Claim 1 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kim et al. '881 ("Kim") in view of Applicants' Admitted Prior Art ("AAPA"). This rejection is respectfully traversed for the following reasons.

In order to expedite prosecution, Applicants' representative initiated a telephone interview with Examiner Rizk. Applicants and Applicants' representative would like to thank Examiner Rizk for his courtesy in conducting the interview and for his assistance in resolving issues. As a result of the interview, the Examiner tentatively agreed that Kim and AAPA do not disclose claim 1, but indicated that further consideration and an updated prior art search would need to be conducted prior to an indication of allowability. A summary of the interview discussion follows.

Claim 1 recites in pertinent part, "wherein of the DPMs, basic DPMs, *each* of which is a differential path metric between a path metric for a reference state and a path metric for another state, are retained and the most likely paths are selected *according to the basic DPMs*" (emphasis added). According to one aspect of the present invention, the *basic* DPMs identified specifically as a differential path metric between a path metric for a reference state and a path metric for another state can embody a subset of conventional DPMs identified generally. For example, in one exemplary embodiment, the reference state can be S0 shown in Figure 10 of Applicants' drawings, so that the basic DPM's for the other states (S1-S7) are each defined

Application No.: 10/591,457

relative to S0, whereby all DPMs do not have to be retained (see page 15, lines 15-18 of Applicants' specification). It is respectfully submitted that neither AAPA nor Kim, alone or in combination, disclose or suggest the claimed invention.

As acknowledged by the Examiner, AAPA discloses only conventional DPMs generally but does not suggest basic DPM's specifically. The Examiner therefore relies on Kim in an attempt to obviate this deficiency of AAPA. However, as discussed during the interview, Kim merely discloses a method *for reducing the paths themselves* by using the statistics of path metric values. Kim is completely silent as to using differentials, much less suggest basic DPM's. Accordingly, even assuming *arguendo* proper, the proposed combination does not disclose or suggest the claimed invention.

According to one aspect of the present invention, all DPMs do not have to be retained whereby its sufficient if just some of the DPMs (i.e., basic DPMs) are retained. Accordingly, the size of the circuit for retaining the DPMs can be made relatively small. In addition, in the ACS circuit, the most likely paths can be selected according to the metric differences. This can eliminate path metric overflows without decreasing the processing rate. For example, assuming there are four states (state0, state1, state2 and state3), the conventional ACS circuit would retain six DPMs (DPM01, DPM02, DPM03, DPM12, DPM13 and DPM23) for calculating the most likely paths. In contrast, according to one aspect of the present invention as embodied in claim 1, it can be made possible for three DPMs (basic DPMs; DPM01, DPM02 and DPM03) to be retained in which state0 is a reference state. Only Applicants have recognized and considered the aforementioned effects, and conceived of the novel and non-obvious combination which can make it possible to realize said effects. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

Application No.: 10/591,457

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
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